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AUTHOR	Seperson, Marvin A.; Joyce, Bruce R.
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ABSTRACT

A study was conducted to explore the relationships between the teaching behavior of student teachers and cooperating teachers over a semester of contact. Subjects were 19 liberal arts graduates in a year-long master's degree program which included "observation-participation" experiences in the fall semester and full-time student teaching in the spring semester. Samples of their teaching behavior (tape recordings and live observation coded according to the Joyce Conceptual Systems Manual) included four during the "observation-participation" period; two early in the second semester when they were with their cooperating teachers; one halfway through the semester; and two later in their experience. Analyses included calculation of eight indices of teaching behavior for each student teacher and each cooperating teacher and correlations between student teacher behavior and cooperating teacher behavior at the preteaching, early student teaching, and late student teaching levels. The evidence indicates no relationships between the indices of the student teachers and cooperating teachers prior to contact but there were relationships in several indices shortly after student teaching began, and these continued even when adjusted for the early relationships. However, inspection of the difference scores revealed no consistent patterns of influence once the early impact of the cooperating teacher had been felt. (JS)

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The Teaching Styles of Student Teachers as Related to The Teaching Styles of Their Cooperating Teachers

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by

Marvin A. Seperson
University of New Hampshire

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by

Marvin A. Seperson
University of New Hampshire

and

Bruce R. Joyce
Teachers College, Columbia University

For many years it has been assumed that there are considerable relationships between the teaching behaviors of individual student teachers and their cooperating teachers, and that these relationships are cumulative due to the influence of the cooperating teacher on the student teacher.

However, there are a few reported investigations of the empirical dimensions of the relationships. One of the most widely quoted is that of Shirley Flint[1] who studied student teachers and cooperating teachers at the Hunter College Laboratory School, using Medley and Metzel's OSCAR. She found some patterns of relationship in several areas of teaching behavior. Her data were obtained during a relatively short teaching experience and no long-term patterns of influence during a brief contact provides some confirmation of the common-sense belief. Brown's study[2] of student teachers during "participation" experiences found no relationships and, in fact, considerable differences between student teachers and

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[1]Shirley H. Flint, "The Relationship between the Classroom Verbal Behavior of Student Teachers and the Classroom Verbal Behavior of Their Cooperating Teachers," (unpublished Doctoral Dissertation, Teachers College, Columbia University, New York, 1965).

[2]Clark C. Brown, "The Relationship of Initial Teaching Styles and Selected Variables in Student Teaching," (unpublished Doctoral Dissertation, Teachers College, Columbia University, 1967).

cooperating teachers. The students displayed much more indirect, inquiry-oriented, supportive styles than did the cooperating teachers they were exposed to as models of teaching during the "preparation" experiences.

The present investigation, which is one of a long series of investigations at Teachers College, Columbia University, into the development of teaching styles by young teachers, attempted to explore the relationship between the teaching behavior of student teachers and cooperating teachers over a semester (about fifteen weeks) of contact.

The subjects were nineteen teacher candidates in the preservice teacher education program at Teachers College. The student teachers were in a year-long Masters Degree teacher education program. All were Liberal Arts graduates, and each of them engaged in "observation-participation" experiences during the first semester, that is, the fall of the year, and then in full-time student teaching during the second semester of their program.

Procedures

Four samples of their teaching behavior were obtained during the "observation-participation" experience when they were working in tutorial sessions with small groups of children in Language Arts lessons. Tape recordings were made of each of these four lessons, and the tape recordings were coded according to the Conceptual Systems Manual (the "Joyce" system).[3] Two samples of their teaching behavior were obtained early in the second semester when they were with their cooperating teachers, one

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[3]Bruce R. Joyce and Berj Harootunian, The Structure of Teaching (Chicago: Science Research Associates, Inc., 1967), Appendix A, pp. 228-246.

sample half way through the semester, and two more samples of behavior were obtained late in their experience with the cooperating teachers. In addition, three samples of their cooperating teacher's behavior were obtained during the second semester. All samples of teaching behavior were obtained through live observation during the second semester.

Two types of analyses were made of these data. Indices of teaching behavior, eight in number, were computed for each of the student teachers for the "initial" contact with children, that is, the teaching experiences sampled in the fall of the year with small groups prior to exposure to their cooperating teachers, the "early" student teaching behavior sampled early in the second semester and the "later" student teaching experience sampled late in the second semester when they had been with the cooperating teachers for several weeks. The same indices were calculated for each of the cooperating teachers. Correlations were then made between the student teachers' behavior at the preteaching level, the "early" student teaching level and the "later" student teaching level with the indices of the cooperating teachers. Part correlations then removed the effect of the early relationships to determine whether there was a cumulative relationship between the early and later student teaching behavior.

In addition, the means of each index were calculated for the initial teaching behavior, the early student teaching behavior and the later student teaching behavior, and these were compared with the means for each index for the cooperating teachers. In this way, it is possible to determine whether the individual student teachers moved toward the indices of the cooperating teachers as individuals and whether the student teachers as a group became more like the cooperating teachers whom they were with.

The Conceptual Systems Manual

The version of the manual which was used for the present study (and which has been supplanted by a more recent series of editions) includes the following categories. In its use, a communication is defined as one statement by a teacher on one topic for not more than fifteen seconds.

The teacher's oral communications are placed in four general categories with twenty-four sub-categories.[4] The four general categories include: (1) Sanctions; (2) Information; (3) Procedures; and (4) Maintenance.

The general category of Sanctions includes all oral communications of the teacher that are likely to have a rewarding or punishing effect on one or more children. Under the general category of Sanctions there are ten sub-categories with either positive or negative effect. These sub-categories include:

1-2. Search, the behavior being rewarded or punished may be problem-solving behavior, an attempt to evaluate information, giving an opinion or reason, an attempt at self-expression or to suggest a way of organizing an activity. An example of a communication classified as Search is: "Those are good explanations."

3-4. Group Process, the behavior being rewarded or punished in relations with other children in an attempt to improve a group situation. An example of a communication classified as Group Process is: "Stop bothering the reading group."

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[4]The general category and sub-category names used in this study were based on a duplicated manual produced prior to the publication of The Structure of Teaching.

5-6. Attainment, the behavior being rewarded or punished is the attainment of having learned a concept or skill. An example of a communication classified as Attainment is: "That's correct, the answer is _____."

7-8. Following Directions, the behavior being rewarded or punished is on securing procedural conformity. An example of a communication classified as Following Directions might be: "I am tired of waiting for you."

9-10. General Support, a communication from the teacher giving or denying the learner encouragement, indications of appreciation and general approval. An example of a communication classified as General Support is: "Let's try together and we can do it."

The general category of Information includes all oral communications of the teacher relative to information, ideas, and skills. Three of the sub-categories include communications from the teacher that invite children to give the information, suggest ideas and practice the skills. These are:

11. Child Hypothesis, a communication from the teacher to help the child evaluate information, make inferences, define or advance problems. An example of a communication classified as Child Hypothesis is: "What makes you think so?"

12. Child Observation, a communication from the teacher asking the child to speculate or contribute an observation without rigor of examination. An example of a communication classified as Child Observation is: "What do you think made the fluid turn blue?"

13. Lecture Questions, a communication from the teacher which requires the child to give the one right answer based on recall or observation. An example of a communication classified as Lecture Questions is: "Who discovered America?"

Four additional sub-categories are more teacher-centered and call for the teacher to give the information or ideas and demonstrate skills. These include:

14. Teacher Statements, a communication from the teacher where he gives the information, demonstrates or describes a skill. An example of a communication classified as Teacher Statements is: "Dogs are mammals."

15. Teacher Statements--Repeat, a communication from the teacher where he repeats a statement that a child has made. An example of a communication classified as Teacher Statements--Repeat is: "Alice says dogs are mammals."

16. Teacher Concludes, a communication from the teacher where he defines the issues, states the criteria, makes the assertions, and carries the burden of analysis. An example of a communication classified as Teacher Concludes is: "This will prove that ..."

The general category of Procedures includes all oral communications of the teacher related to procedures, plans, standards, and goals. Two of the sub-categories include communications from the teacher that invite children to determine standards and procedures. These are:

17. Child Standards, a communication from the teacher where he helps the child determine standards of performance. An example of a communication classified as Child Standards is: "How will we decide which stories to include?"

18. Child Procedures, a communication from the teacher where he helps the child develop a plan or determine the procedures. An example of a communication classified as Child Procedures is: "How can you find some more information?"

Three additional sub-categories are more teacher-centered and call for the teacher to determine procedures and standards. These are:

19. Teacher Determines Procedures--Group, a communication from the teacher where he takes the authority for the group or class on how things will be done. An example of a communication classified as Teacher Determines Procedures--Group is: "Turn to page seven."

20. Teacher Determines Procedures--Individual, a communication from the teacher where he takes the authority for procedures but singles out the individual. An example of a communication classified as Teacher Determines Procedures--Individual is: "John, turn to page seven."

21. Teacher Determines Standards, a communication from the teacher where he determines the guidelines for performance and determines what is acceptable. An example of a communication classified as Teacher Determines Standards is: "This paper isn't neat."

The general category of Maintenance includes all oral communications of the teacher related to maintaining the social order within the school. Sub-categories under Maintenance include:

22. Transition, a communication from the teacher that bridges thoughts, ends one activity and begins another, gives the teacher opportunities to stall for time or minimally acknowledge a contribution. An example of a communication classified as Transition is: "Mmmm."

23. Small Talk, a communication from the teacher that is personal in nature and not directly related to the objectives of the school. An example of a communication classified as Small Talk is: "My, it's warm."

24. Discuss Routine, a communication from the teacher that relates to physical arrangements or plans that involve the classroom in non-instructional matters. An example of a communication classified as Discuss Routine is: "Please open the window."

Relationships between the Teaching Styles of the Cooperating Teachers and the Student Teachers

In Table One, there are presented the correlation coefficients between the indices for the "initial" teaching styles and the mean indices of teaching styles for the cooperating teachers.

The initial teaching style, it will be remembered, was determined from samples of the student teaching behavior taken prior to the time when the student teachers had contact with their cooperating teachers. None of the correlations is positive. The pattern is negative, with three correlations significantly so. The negative pattern seems odd, but clearly there were no positive relationships.

In Table Two, there are presented the coefficients of correlation between the indices computed for the "early" and "advanced" teaching styles of the student teachers and the indices of the cooperating teachers.

TABLE ONE

CORRELATION COEFFICIENTS BETWEEN THE MEAN INDICES OF TEACHING STYLE FOR THE INITIAL TEACHING STYLE OF NINETEEN STUDENT TEACHERS AND THE MEAN OF INDICES OF TEACHING STYLE FOR THE COOPERATING TEACHERS TO WHOM THEY WERE ASSIGNED

Index	Initial Style and Cooperating Teachers
Sanctioning - Positive	-.104
Sanctioning - Negative	-.256
Sanctioning - Convergent	-.402*
Total Information Handling	-.260
Information Handling - Total Questioning	-.511*
Information Handling - Open Questioning	-.476*
Total Procedure Handling	-.319
Procedure Handling - Reflective	-.095

*Indicates significance at the .05 level for a one-tailed test. Critical r with 17 df = .389.

TABLE TWO

CORRELATION COEFFICIENTS BETWEEN THE MEANS OF EACH INDEX OF TEACHING STYLE FOR THE EARLY AND ADVANCED STYLES OF NINETEEN STUDENT TEACHERS HAVING ONLY ONE COOPERATING TEACHER AND THE MEAN OF EACH INDEX OF TEACHING STYLE FOR THEIR COOPERATING TEACHERS

Index	Early Teaching Style and Cooperating Teacher	Advanced Teaching Style and Cooperating Teacher
Sanctioning - Positive	.480	.291
Sanctioning - Negative	.334	.136
Sanctioning - Convergent	.497*	.377
Total Information Handling	.562**	.513**
Information Handling - Total Questioning	.214	.489*
Information Handling - Open Questioning	.358	.342
Total Procedure Handling	.479*	.578***
Procedure Handling - Reflective	.163	.537**

*Indicates significance at the .05 level for a one-tailed test. Critical r with 17 df = .389.
**Indicates significance at the .01 level for a one-tailed test. Critical r with 17 df = .528.
***Indicates significance at the .005 level for a one-tailed test. Critical r with 17 df = .575.

It can be seen that four of the eight indices of the early teaching styles are significantly correlated with the indices for the cooperating teachers and the others are positive although they are not significant. Four of the eight coefficients between the advanced teaching style of the student teachers and the styles of the cooperating teachers are significant. These correlations represent substantial evidence that the teaching behavior of the student teachers had moved from no association or negative ones with the behavior of the cooperating teacher prior to student teaching to being significantly related to a number of important dimensions by early in student teaching, a relationship which was maintained throughout student teaching.

Part correlations were computed to remove the effects of the associations between the "early styles" of the student teachers and their cooperating teachers. The results of those calculations are presented in Table Three.

It can be seen that three of the part correlations are significant, indicating that even after the effects of the initial relationship were removed, a significant relationship still existed in five of the eight indices. Hence, although the cooperating teachers evidently influenced the student teachers considerably during the early weeks of student teaching, their influence continued so that an even greater relationship could be observed by the end of student teaching with respect to three of the eight indices.

TABLE THREE

COEFFICIENTS OF PART-CORRELATION BETWEEN INDICES OF TEACHING STYLES OF NINETEEN STUDENT TEACHERS AND THEIR COOPERATING TEACHERS

Index	Student Teachers With One Cooperating Teacher (n = 19)
Sanctioning - Positive	.016
Sanctioning - Negative	.093
Sanctioning - Convergent	.266
Total Information Handling	.365
Information Handling - Total Questioning	.461*
Information Handling - Open Questioning	.163
Total Procedure Handling	.429*
Procedure Handling - Reflective	.517*

*Indicates significance at the .05 level for a one-tailed test. Critical r with 16 df = .400.

Difference Scores

An analysis was made of difference scores in an effort to track the patterns influence more specifically over the five lessons. In Table Four, the difference scores are presented for each of the five lessons. Each difference score was calculated by taking the index for each student teacher for each lesson and subtracting it from the mean of the cooperating teachers' indices.

It can be seen that the difference scores did not change appreciably through the five lessons and remained, in fact, about the same throughout the lessons. Thus, although student teachers' behavior became correlated with the behavior of their cooperating teachers in several important areas, differences in behavior existed and did not diminish entirely. Also there are fairly large ranges indicating that some student teachers behaved quite differently from their cooperating teachers.

Interpretation

The evidence seems to indicate clearly that there were no relationships between the indices of the student teachers and cooperating teachers prior to their contact but that there were relationships in several of the indices very shortly after student teaching began, and the relationships continued even when they are adjusted for the early relationships. However, inspection of the difference scores revealed no consistent pattern of influence once the early impact of the cooperating teacher had been felt.

TABLE FOUR

MEANS AND RANGES OF DIFFERENCE SCORES BETWEEN EIGHT INDICES OF BEHAVIOR OF STUDENT TEACHERS AND THEIR COOPERATING TEACHERS

Index	Lesson #1 Mean & (Range) of Differences		Lesson #2		Lesson #3		Lesson #4		Lesson #5	
			Mean	(Range)	Mean	(Range)	Mean	(Range)	Mean	(Range)
Sanctioning - Positive	.05	(.18)	.06	(.29)	.05	(.22)	.05	(.19)	.05	(.25)
Sanctioning - Negative	.23	(1.33)	.23	(1.23)	.19	(.96)	.17	(.96)	.28	(1.56)
Sanctioning - Convergent	.27	(1.48)	.24	(1.36)	.23	(1.12)	.20	(1.03)	.21	(.84)
Total Information Handling	.11	(.47)	.08	(.44)	.12	(.51)	.10	(.42)	.09	(.66)
Information Handling - Total Questioning	.12	(.70)	.14	(.51)	.14	(.73)	.13	(.56)	.11	(.52)
Information Handling - Open Questioning	.11	(.50)	.11	(.40)	.15	(.81)	.13	(.54)	.12	(.58)
Total Procedure Handling	.08	(.35)	.08	(.34)	.08	(.45)	.07	(.24)	.09	(.73)
Procedure Handling - Reflective	.06	(.31)	.06	(.40)	.04	(.39)	.05	(.33)	.05	(.39)

The evidence supports the common-sense contention that the cooperating teacher substantially influences the behavior of the student teacher, and this evidence contradicts directly a finding in the previous study conducted by Brown and Joyce in which no significant relationships were found between student teachers and cooperating teachers.[5]

It is worthwhile noting that the influence of the cooperating teacher was felt during the very early weeks of student teaching rather than being the result of the slow and cumulative impact. We had expected that the initial correlations might be relatively low with a gradual rise in the course of student teaching. Such was not the case. It may well be that the entire setting of student teaching influences the behavior of the student teacher almost immediately on his contact with the cooperating teacher. For example, if a student teacher is put into a room where all the children are organized into small groups, and his task is to help those groups maintain their functioning and to plan with them, he is likely to have to play a facilitative role even if these new behaviors are somewhat awkward for him. If, on the other hand, he is put into a classroom where the children are lined up in neat rows, and the teacher functions always by talking to them from the front of the room, then the student teacher is likely to have to adopt a lectorial, recitative pattern of behavior however awkward that may be for him. Hence, it may be that the cooperating teacher models for the student teacher not only a verbal behavior which he would expect to be influential only slowly and over a long period of time but also affects his student teacher by the entire setting that he creates. The setting may be influential very rapidly in the experience while a verbal model would be slower to have effect.

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[5]Clark C. Brown, "The Relationship of Initial Teaching Styles and Selected Variables in Student Teaching," (unpublished Doctoral Dissertation, Teachers College, Columbia University, 1967).

Be that as it may, the cooperating teacher apparently really is a powerful influence for good or for ill. Since it is well known that most experienced teachers carry on deductive recitation-style teaching rather than inductive or inquiry-oriented teaching, the fact of the early influence on the student teacher should not be considered to be an unmixed blessing.

Because the findings of this study conflict with the previous findings of the Brown investigation, we are replicating it currently to determine, among other things, the extent to which the setting is influential on the teaching styles of student teachers.

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